

Remediation-Restoration-Revitalization: Past practices and emerging trends in the greening of brownfields

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What type of greening is taking place?

- Greening represents 4-5% of US brownfield projects
- Green Space generation on brownfields (30 case studies)
 - Total generation = 2,400 acres
 - Size range = 1 - 1,163 acres
 - 13 acres (median), 84 acres (mean)

- Types of Green Space

- Linear Parks (restoration/passive)
- Neighborhood parks (active/passive)
- Large multiple use parks
- Ecological/Natural Habitat
- Parkettes

TOT	US	Tor.
10	8	2
7	5	2
5	3	2
5	3	2
3	1	2

What type of greening is taking place?

- How are contamination issues managed?
 - Most common methods include:
 - Capping (soil/concrete/wetland=10 projects);
 - Dig-and-dump (6 projects);
 - Technological approach (6 projects);
 - Monitoring/natural attenuation (6 projects);
 - Ongoing.
- How much will the project cost?
 - Combined average cost \$4.5 million/project or \$744,000/acre
 - Assessment & cleanup \cong 19% (US)/25% (CAN) of capital costs

Brownfields to Green – Community

☺ Bringing people back to once blighted areas

- Brown to greenspace projects
 - 72% of respondents visited weekly
 - 25% visiting every day
 - 85% visited from work (Mill Ruins Minneapolis)

☺ Encouraging recreation and connectivity

- Primary Activities (scale: 1 never, 2 sometimes, 3 often)
 - Walking/hiking (2.47 mean)
 - Enjoying the scenery (2.03)
 - Relaxing, resting or hanging-out (1.89)
 - Visiting or meeting friends (1.57)
 - Jogging/running (1.57)

☺ Improving community quality of life

- Community Quality of Life Impacts (Rank & Mean, 1=major negative impact, 5=major positive impact)
 - Scenic beauty (4.74)
 - Trails for walking, hiking and biking (4.66)
 - Neighborhood appeal (4.66)
 - Having natural areas present (4.63)
 - Access to recreational areas (4.61)
 - Community pride (4.59)
 - Blight removal (4.51)
 - Personal fitness (4.49)
 - Property values (4.46)
 - Access to quiet areas (4.46)

Brownfields to Green - Economic

☺ Increasing the value of surrounding property

- Brown to green raises value 11.7% in Milwaukee & 4.4% in Minneapolis (2500 ft)
- In Milwaukee, a brownfield project has a greater influence on surrounding property values the closer it is to water (\$269 drop per 1000 ft away from H2O)

☺ Public amenity is a catalyst for new development

☺ Minimizes Liability

☺ Flood mitigation and stormwater retention

☺ Tourism

☹ High project costs

- Public sector takes on most capital & maintenance costs
- Limited revenue & financing sources

Mill Ruins Park & Stone Arch Bridge,
Minneapolis















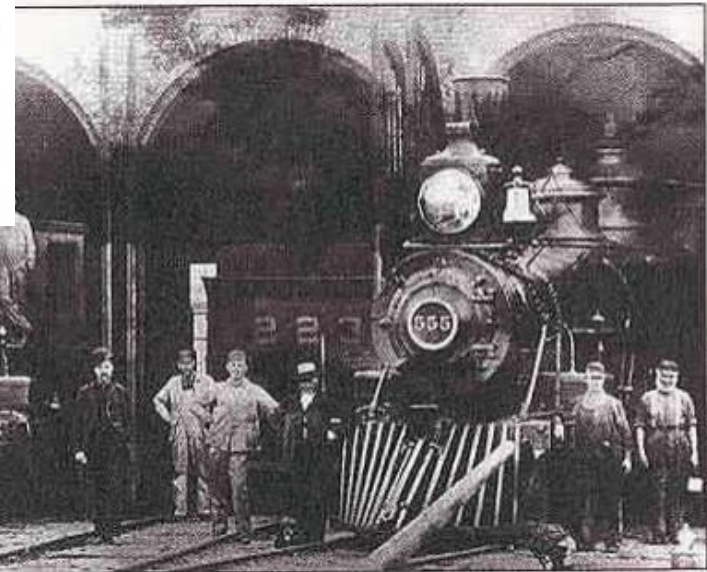
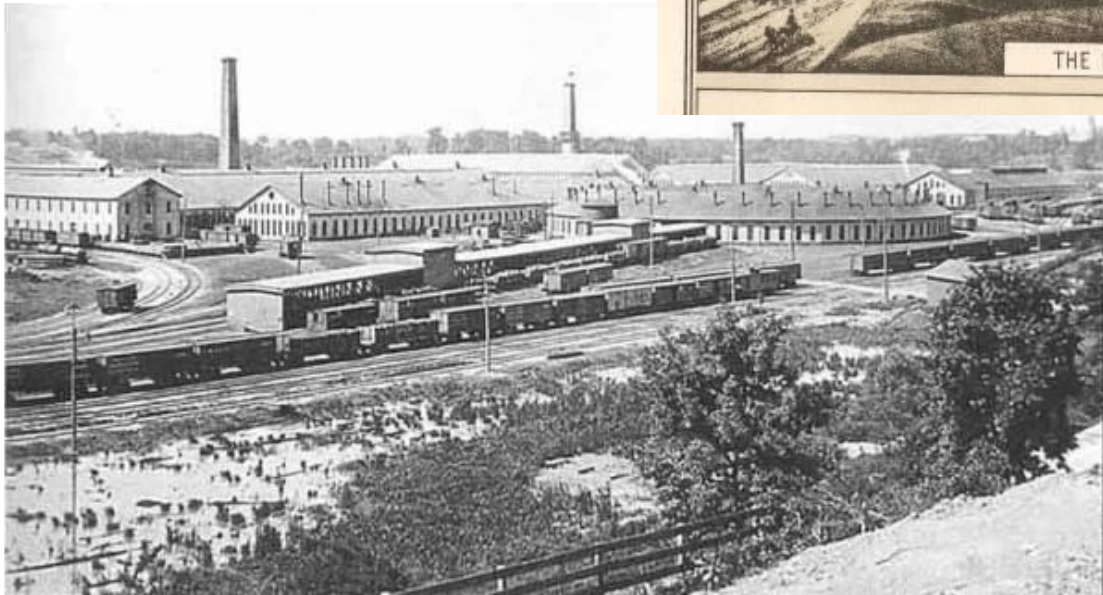
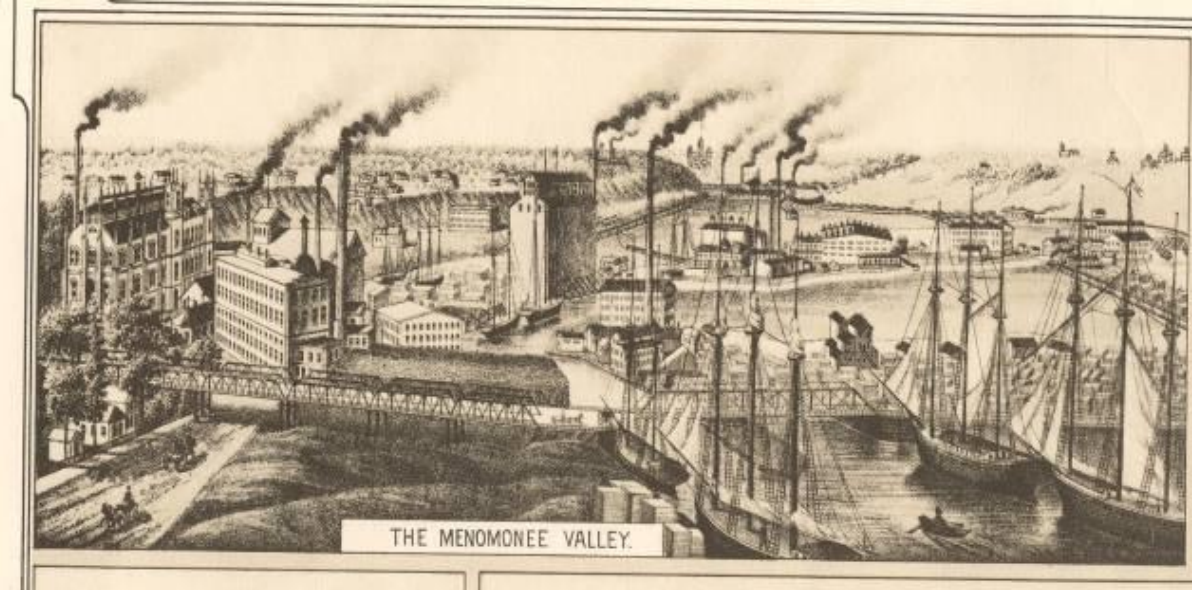


Minneapolis Central Riverfront

- Public Investment = \$205 million (\$55 mil. in parks & \$150 mil. in public improvements)
- Private investment = \$1.2 billion
- Over 3000 new residential units



Menomonee Valley, Milwaukee: Way Past



Milwaukee County Historical Society

Milwaukee Public Library

Menomonee Valley: Past





Infrastructure Improvements



Courtesy of MVP 2009



Economic Development



\$700 million invested
14 new businesses opened
4,200 new jobs created
\$1M new City tax revenue

Courtesy of MVP 2009

Private Investments



Caleffi Hydronics



Charter Wire



Taylor Dynamometer



Derse, Inc.



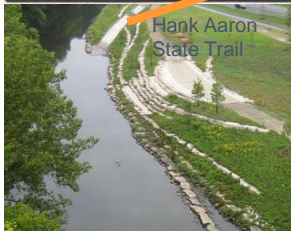
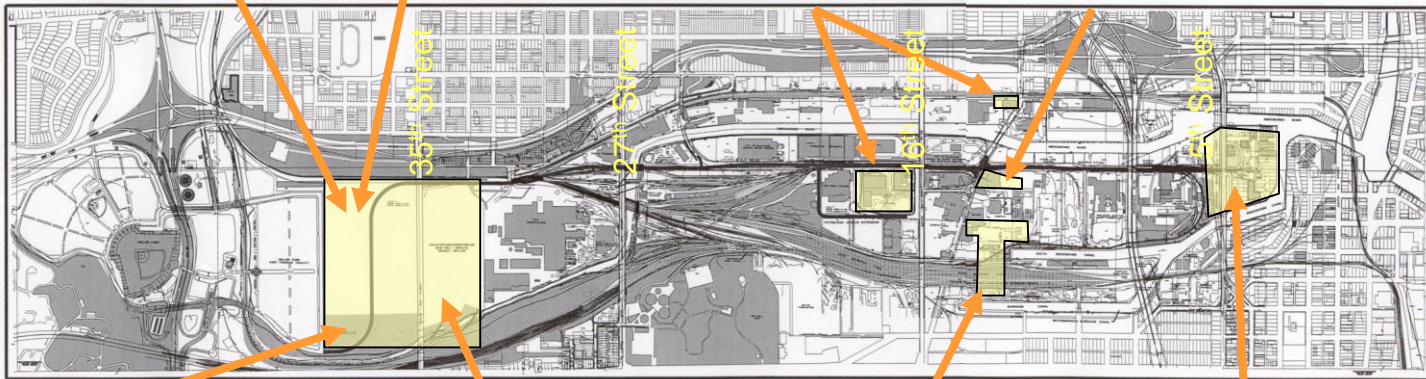
Badger Railing



Potawatomi Casino



The Sigma Group



Hank Aaron
State Trail



Palermo's Pizza



Proven Direct



Harley-Davidson Museum

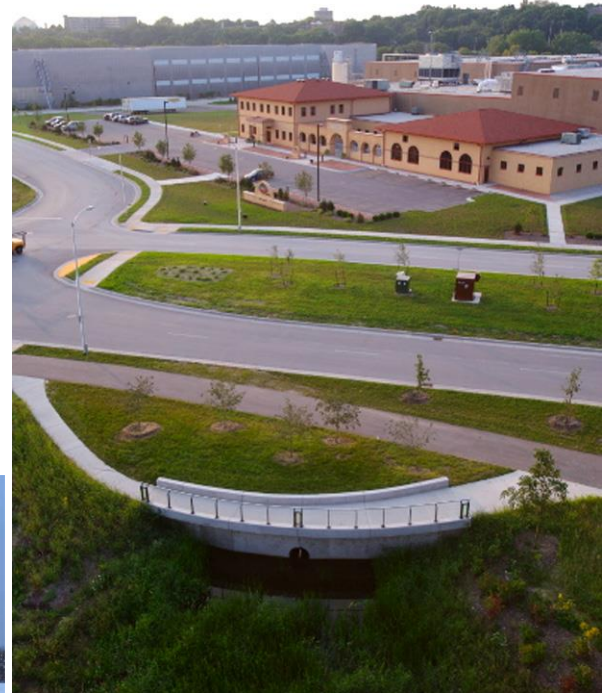
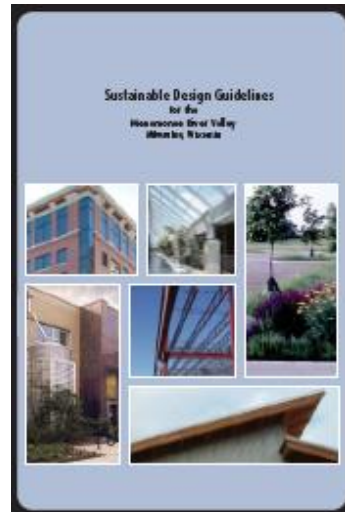
Courtesy of MVP 2009







Sustainable Design Guidelines



Courtesy of MVP 2009

Stormwater Management



Courtesy of MVP 2009







Storm Water Management Areas



2 Year Storm Detention



5 Year Storm Detention



100 Year Storm Detention



2 Year Storm Event



5 Year Storm Event



100 Year Storm Event

Stormwater Treatment Train

Courtesy of MVP 2009



Oct 2002



Nov 2005



Aug 2007



Oct 2006

Courtesy of MVP 2009



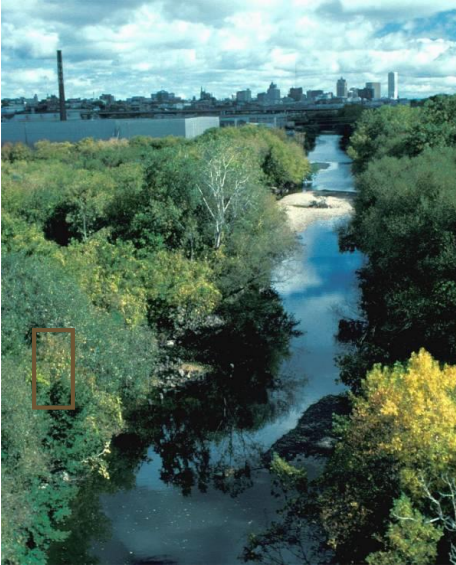
June 7, 2008



June 10, 2008

Stormwater from 70 acres of new development is treated on site, improving the water quality of the adjacent Menomonee River

Courtesy of MVP 2009



Riverbank Restoration

Courtesy of MVP 2009





Community Events



Courtesy of MVP 2009

Science, Monitoring, Education

MVBI Report 2013

Environment

- Water Quality
- Air Quality
- Land Cover & Habitat
- Flora & Fauna

Community

- Housing
- Crime
- Health
- Arts & Events

Economy

- Employment
- Commercial Property
- Business
- Infrastructure & Access

